



# Operational Risk Management

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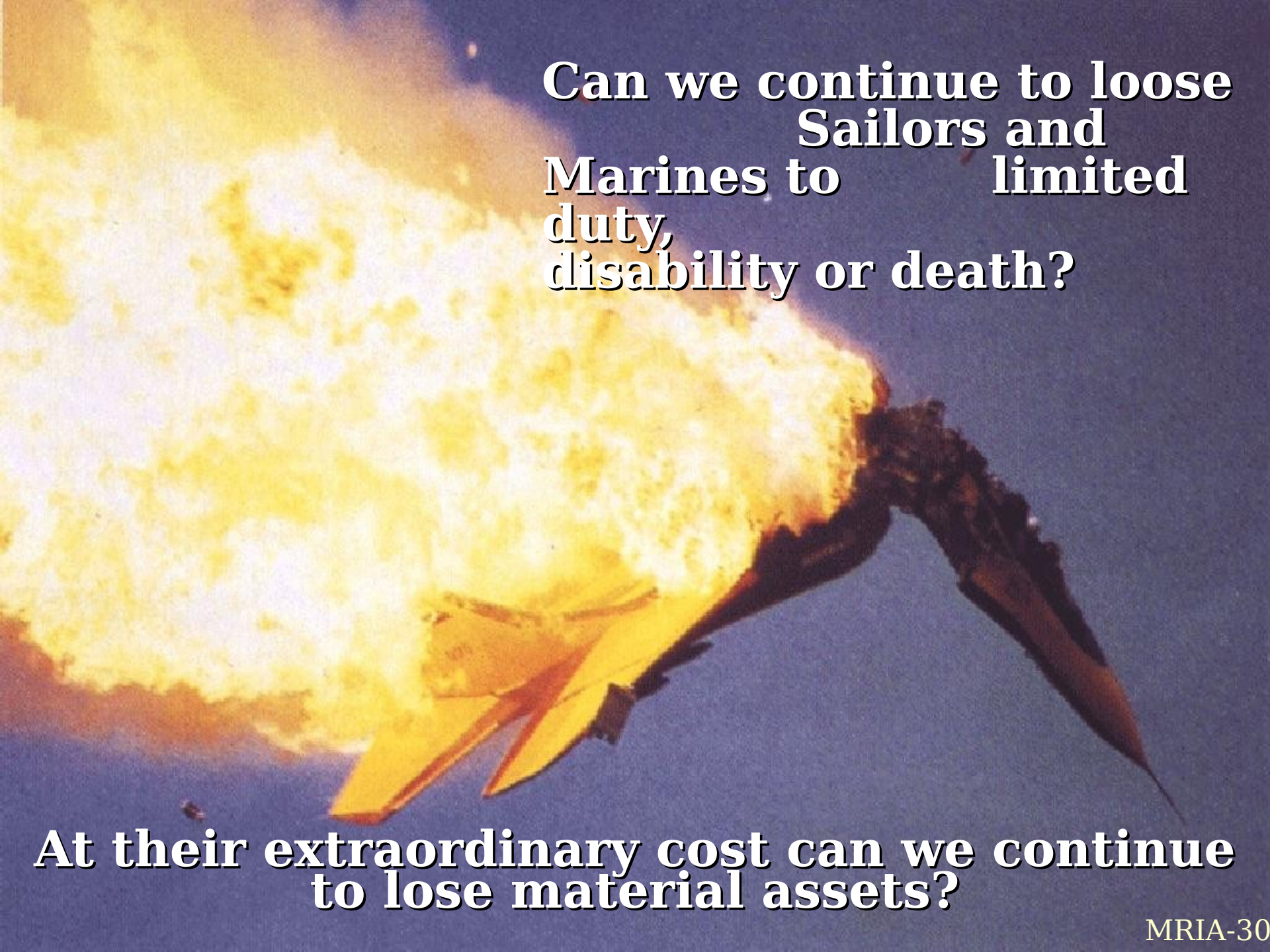
# ***ORM BRIEF***

- **WHY ORM? - OVERVIEW**
- **ORM BASICS**
- **FUTURE ORM DIRECTIONS**
- **ORM VIDEO**

# ***ORM GUIDANCE***

**“ORM applies across the entire spectrum of naval activities, from joint operations and fleet exercises to our daily routine. We must encourage top down interest in the ORM process, from the flag level all the way to the deckplates.”**

**- ADM J. Johnson, CNO**

A fighter jet is shown in a steep climb, leaving behind a large, billowing fireball of orange and yellow flames and a thick trail of white smoke. The jet's wings and tail are visible, angled upwards. The background is a clear blue sky.

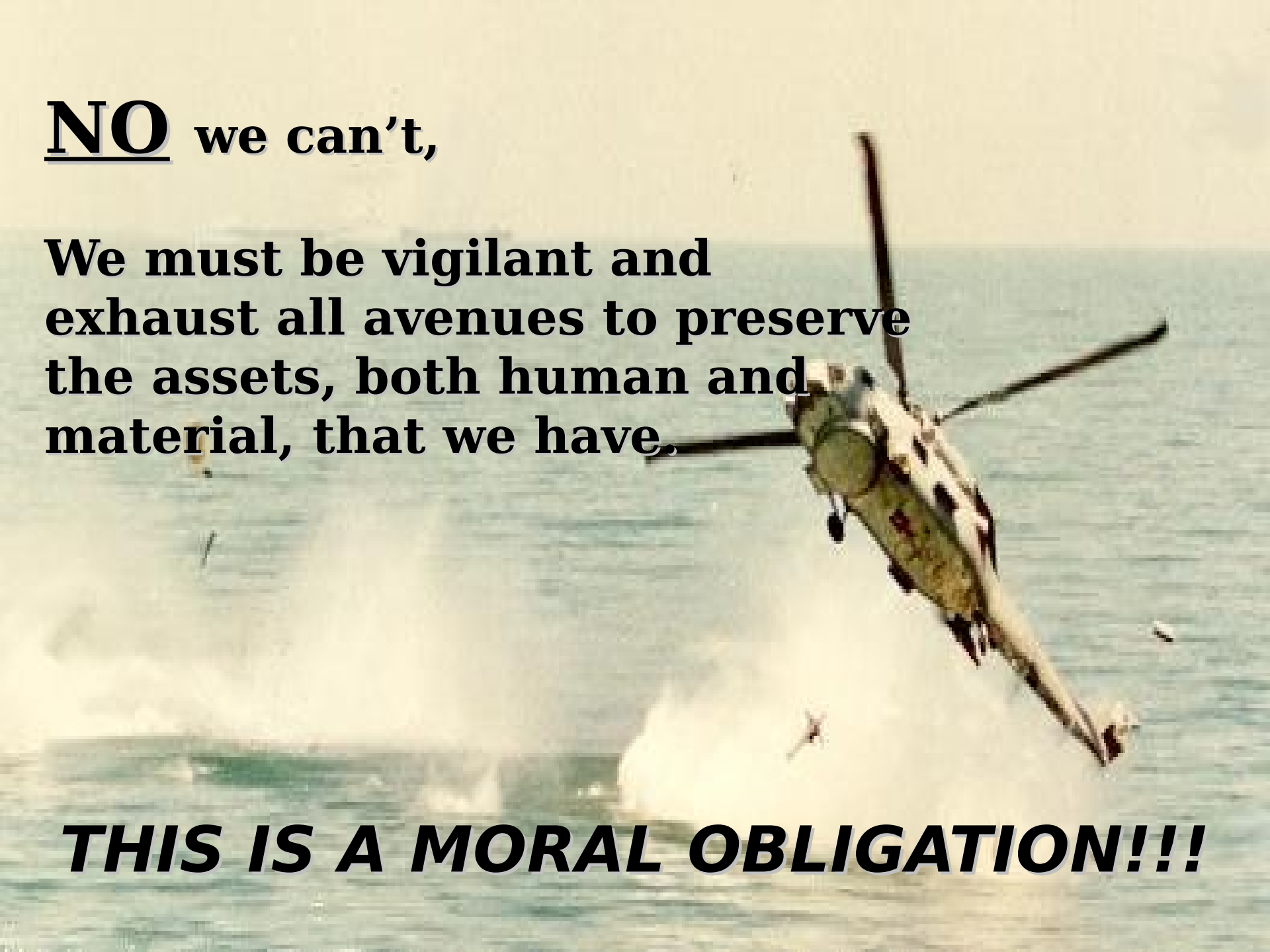
**Can we continue to loose  
Sailors and  
Marines to limited  
duty,  
disability or death?**

**At their extraordinary cost can we continue  
to lose material assets?**

**NO** we can't,

**We must be vigilant and  
exhaust all avenues to preserve  
the assets, both human and  
material, that we have.**

***THIS IS A MORAL OBLIGATION!!!***



# Where is the Hazard Assessment

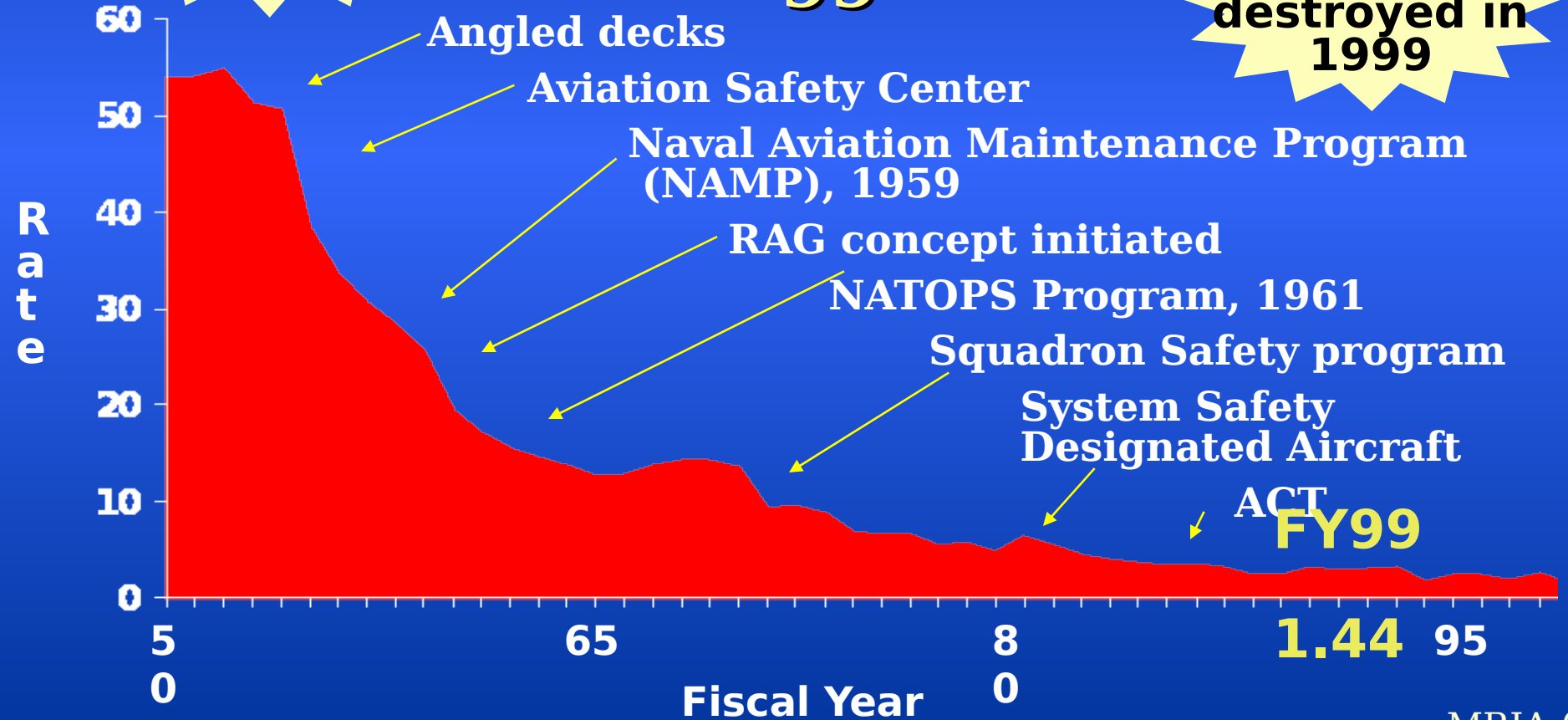


# Naval Aviation Mishap Rate

776 aircraft  
destroyed in  
1954

FY50-  
99

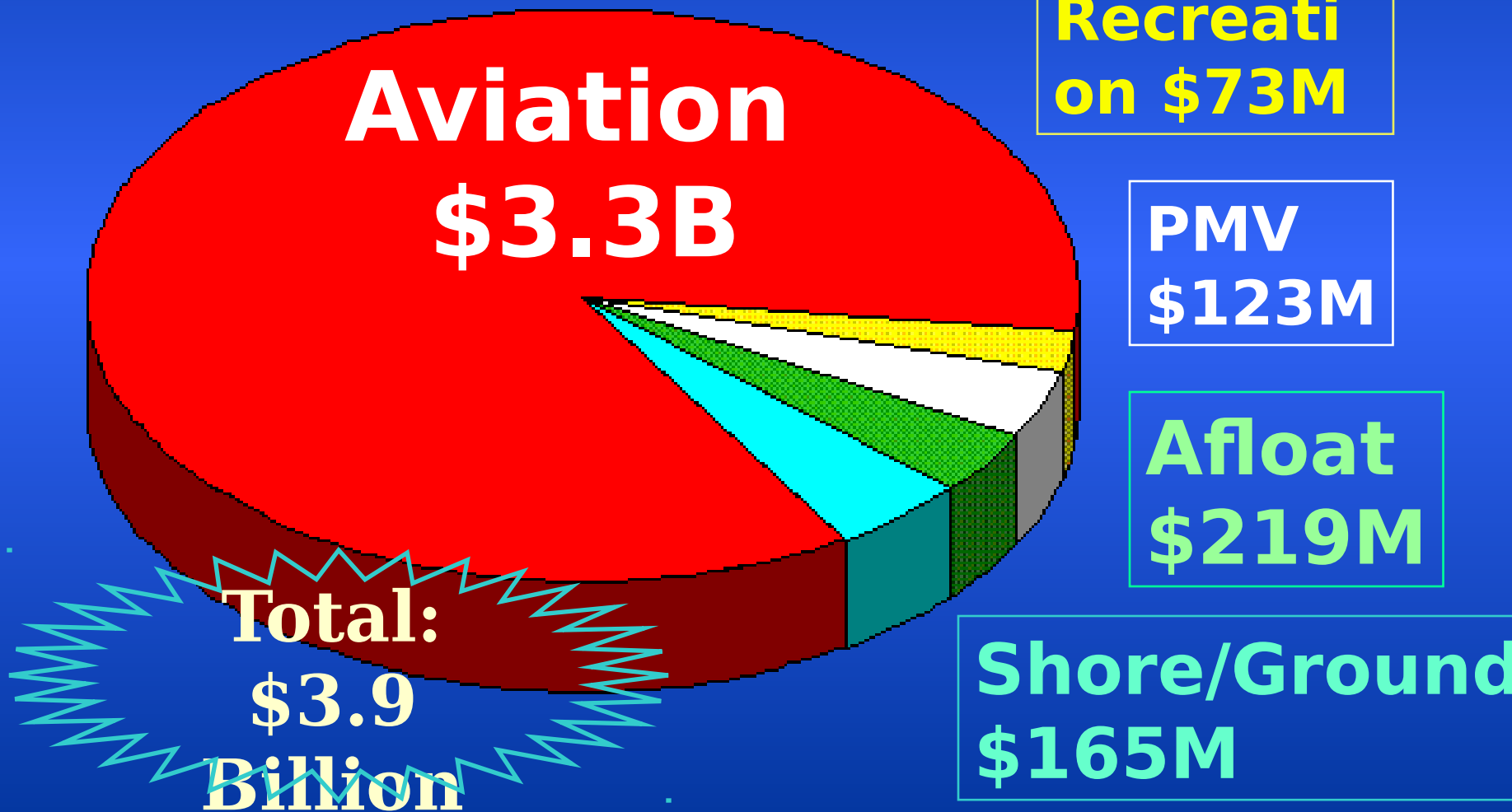
22 aircraft  
destroyed in  
1999





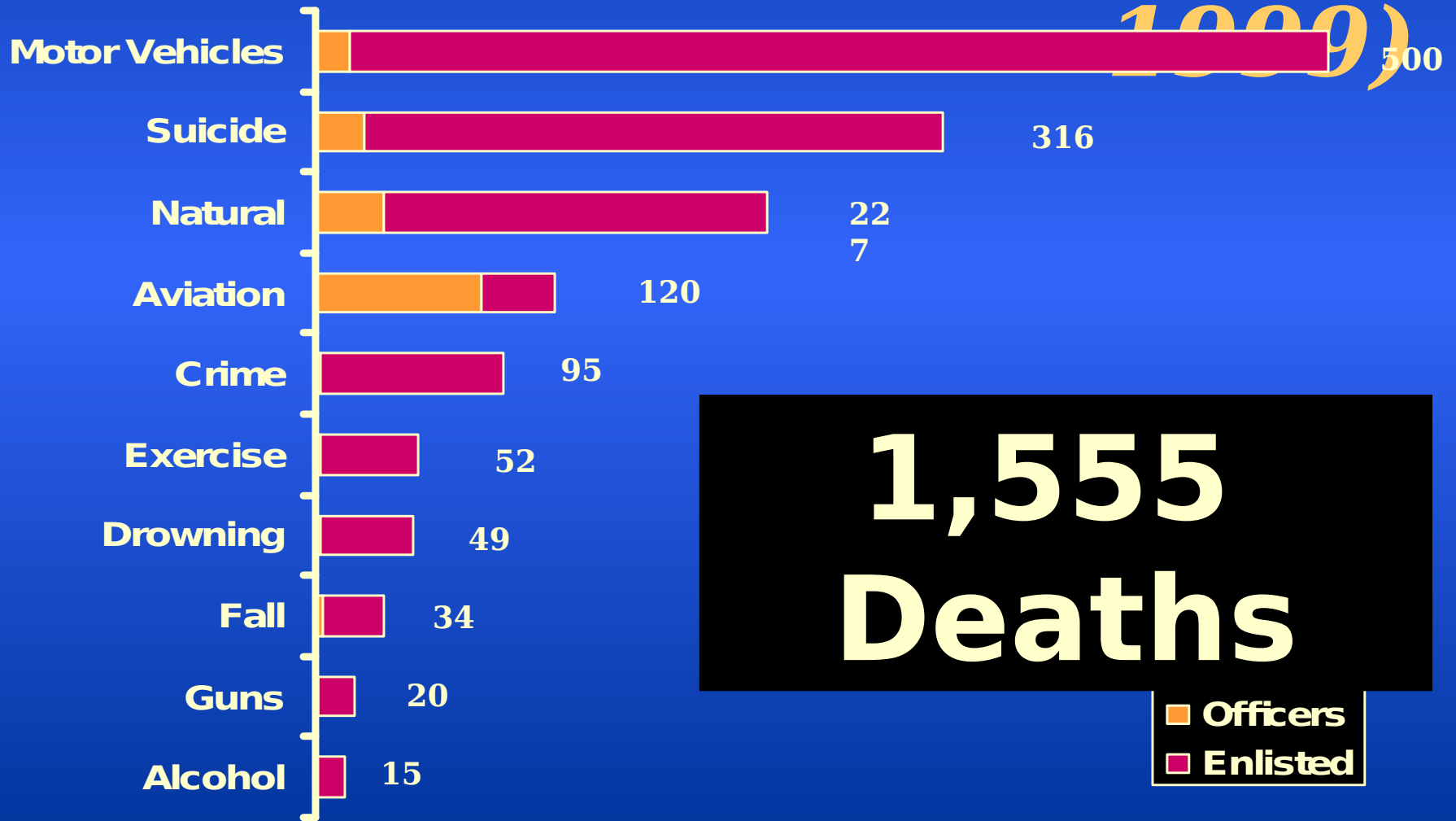
# Cost of Mishaps

## Navy and Marine Corps, FY95-99





# *TOP TEN CAUSES OF DEATHS (1995- 1999)*



**1,555  
Deaths**

■ Officers  
■ Enlisted

# Causes of Risk

Personal Work Ethic

Complex Evolutions

High Energy Levels

Environmental  
Influences

New Technology

Feeling of “Invincibility”

Speed, Tempo of Operations

Stress

Resource Constraints

Human Nature

Complacency



**Random, hit or miss**

**Reactive**

**Safety as after-thought  
types of once plan is done  
plan**

**Non-standard process/terms  
process/terms**

**"Can do" regardless of risk  
decisions**

**Definitive approach**

**Proactive**

**Integrates all  
of risk into**

**Common**

**Conscious  
based on**



**The Process of dealing with risk associated with all that we do.**

***The process includes Risk Assessment, Risk decision making and implementation of effective risk controls***



# Benefits

- **Efficient and Effective Mission Accomplishment**
- **Reduction in Personal Injuries and Fatalities**
- **Reduction in Material and Property Damage**

# ***ORM TERMS***

## **HAZARD**

A condition with the potential to cause personal injury or death, property damage, or mission degradation.

## **RISK**

An expression of possible loss in terms of **severity** and **probability**.

## **SEVERITY**

The worst credible consequence which can occur as a result of a hazard.

## **PROBABILITY**

The likelihood that a hazard will result in a mishap or loss or cause a mission degradation.

## **CONTROL**

A method for reducing risk for an identified hazard by lowering the probability and/or severity.



**5**  
**Steps**

**4**  
**Principles**

**3**  
**Levels**





## A 5-Step Process

- ✓ Identify hazards
  - ✓ Assess hazards
    - ✓ Make risk decisions
      - ✓ Implement Controls
        - ✓ Supervise



## 4 Principles

- Accept risk when benefits outweigh the cost
- Accept no unnecessary risk
- Anticipate and manage risk by planning
- Make risk decisions at the right level



## 3 Levels of Application

- Time-critical - On the run consideration of the 5 steps
- Deliberate - Application of the complete 5-step process
- In-depth - Complete 5-step process with detailed analysis

**While in-port in the Caribbean, the commanding officer wants to hold a flight deck cookout for the crew. As a result 5 of your aircraft must be re-spotted within 1 hour. It is estimated that 10 of your 26 line personnel are present. The weather forecast calls for temperatures in the high 90s with high humidity and possible**



# Identify Hazards

- ID manageable pieces of the event
- Use experience as a guide
- Ask “What can go wrong?”
- Brainstorm

# SCENARIO--HAZARD ID

## HAZARDS

- **Aircraft collision**
- **Aircraft lost over side**
- **Personnel hit by moving aircraft**
- **Heat related injury to personnel**
- **Personnel not familiar with flight deck environment present during aircraft moves**
- **Personnel not familiar with aircraft move involved in aircraft move**

# 2

Assess Hazards  
Prioritizes the risks of  
identified hazards based  
on:

- *Severity* of possible loss
- *Probability* of occurrence



**Risk Assessment**

**Code - ( RAC )**

**1 = Critical**

**2 = Serious**

**3 = Moderate**

**4 = Minor**

**5 = Negligible**

**CAT I = Death/ Loss of asset.**

**CAT II = Severe injury / degradation of asset.**

**CAT III = Minor injury/ degradation of asset.**

**CAT IV = Minimal injury/ degradation of asset.**

		Probability of Occurrence			
		Likely - Immediate	Probably will occur in time	May occur	Unlikely to occur
		A	B	C	D
S E V E R I T Y	Cat I	1	1	2	3
	Cat II	1	2	3	4
	Cat III	2	3	4	5
	Cat IV	3	4	5	5
Risk Levels Risk Assessment Code					

# **SCENARIO--HAZARD ASSESSMENT ASSESSMENT**

## **RISK**

1. Aircraft collision
2. Utilizing personnel not familiar with the job
3. Personnel present not familiar with environment
4. Heat related problems
5. Personnel hit by aircraft
6. Aircraft lost over side

1. S-I / P-B, RAC=1
2. S-II / P-A, RAC=1
3. S-II / P-A, RAC=1
4. S-I / P-C, RAC=2
5. S-I / P-C, RAC=2
6. S-I / P-D, RAC=3

# 3

## Make Risk Decisions

Consider risk control options

- Risk vs. benefit
- Communicate as required

# 4

## Implement Controls

- Engineering controls
- Administrative controls
- Personal protective equipment

# SCENARIO--IMPLEMENT CONTROLS

Aircraft Collision

*Brief vigilance and caution*

Aircraft lost over the side

*Brief specific caution*

Heat related problem

*Ensure fluids available*

Personnel hit by aircraft

*Ensure personnel are alert to all hazards*

Utilizing personnel not familiar with the job

*Use only authorized and briefed personnel*

Personnel present not familiar with

environment

*Clear environment of non-essential visitors*

# 5

## Supervis

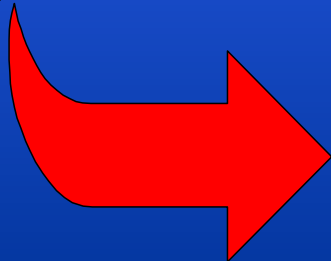
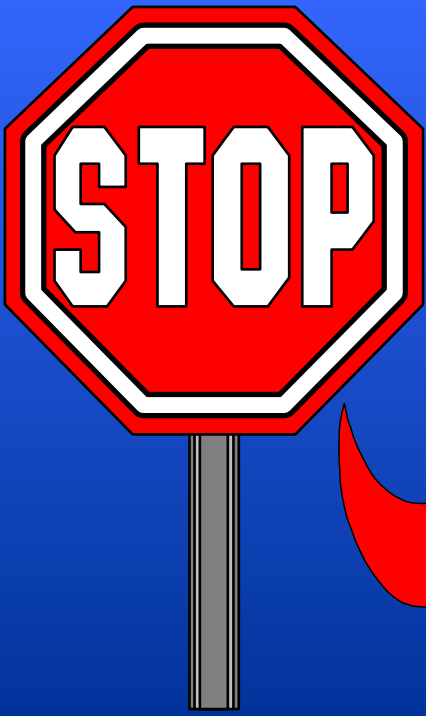
- Monitor for control effectiveness
- Watch for changes

# ***“Change*** is the Mother of All Risks”

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If you detect a shift in:

- Plan
- Environment
- Equipment
- Personnel



and evaluate the  
***Change!!!***



# ORM GUIDANCE

## OPNAVINST 3500.39



DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
2000 NAVY PENTAGON  
WASHINGTON, D.C. 20350-2000  
and  
HEADQUARTERS  
UNITED STATES MARINE CORPS  
2 NAVY ANNEX  
WASHINGTON, D.C. 20380-1775

IN REPLY REFER TO

OPNAVINST 3500.39  
MCO 3500.27  
N511  
SD  
03 April 1997

**OPNAV INSTRUCTION 3500.39**  
**MARINE CORPS ORDER 3500.27**

From: Chief of Naval Operations  
Commandant of the Marine Corps

To: All ships and Stations

Subj: OPERATIONAL RISK MANAGEMENT

Ref: (a) DODINST 6055.1

Encl: (1) Introduction to Operational Risk Management

1. Purpose. In accordance with change 2 to reference (a), establish Operational Risk Management as an integral part of Naval operations, training and planning at all levels in order to optimize operational capability and readiness.

2. Background

a. Uncertainty and risk are inherent in the nature of military action. The success of the Naval Services is based upon a willingness to balance risk with opportunity in taking the bold and decisive action necessary to triumph in battle. At the same time, Commanders have a fundamental responsibility to safeguard highly valued personnel and material resources, and to accept only the minimal level of risk necessary to accomplish an assigned mission.

b. Operational Risk Management is an effective tool for maintaining readiness in peacetime and success in combat without infringing upon the prerogatives of the Commander. Historically, the greater percentage of losses during combat operations were due to mishaps. Unnecessary losses either in battle or in training are detrimental to operational capability. Since 1991, Operational Risk Management, applied to both day-to-day

CO's should ensure ORM is implemented into all levels of the command. Examples include, but are not limited to:

- Train all personnel on ORM
- Incorporate identified hazards, risk assessments & controls into briefings, notices, and written plans.
- Conduct thorough risk assessments for all new or complex evolutionary operations, defining acceptable risk and providing contingencies for the evolution.

# *WHERE'S ORM GOING*

- *Jumpstart ORM basics training & “how to” for aviation & afloat units*
  - *Training ORM facilitators for all units*
    - *Get ORM into all pipeline training*
      - *Integrate ORM into pubs & pr*

**ORM is a process...**  
***not* a program!**



**It must become an inherent  
way of doing business**



**Thanks for your  
attention...**



**Think  
Safety!**